

**WILLINGNESS TO PAY FOR AN ENTRANCE FEE: A
CASE OF MARDI AGRO TECHNOLOGY PARK,
LANGKAWI**

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**WILLINGNESS TO PAY FOR AN ENTRANCE FEE: A CASE OF MARDI
AGRO TECHNOLOGY PARK, LANGKAWI**

By

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ABSTRACT

This study assesses the Willingness to pay (WTP) for an entrance fee in MARDI Agro Technology Park, Langkawi. The main objective 1) to identify the demographic characteristics of respondent' to MARDI Agro Technology Park, 2) to estimate WTP for additional facility namely Health and Spa Centre through entrance fee, 3) to assess the differences of WTP between local and foreign visitors, 4) to identify the level of visitors' satisfaction that come to MARDI Agro Technology Park. The data were collected through questionnaire among local and foreign visitors (n = 100) separately. Contingent Valuation Method (CVM) technique was used to determine willingness to pay where the Single Dichotomous Choice Method was used to analyze data. The results of the CVM approach reveal that 59% of the foreign respondents and 56% of the local respondents were willing to pay for additional facility namely Health and Spa Centre. The bid amount and income were a common factor which influenced the Willingness to Pay of both local and foreign respondents. The researchers estimate the mean of WTP for local and foreign visitors are which additional for entrance fee is RM6.35 and RM7.20. Finally, the study yields several recommendations for development and improvement of available facilities and service those involved in MARDI Agro Technology Park. The study also proves that an increment of budget outlays for construction Health and Spa Centre is feasible while providing forums to communicate with regulatory bodies to maximize the revenue and visitor attraction in future generation

KEYWORDS: contingent valuation method (CVM), Health and Spa Centre, willingness to pay (WTP), MARDI Agro Technology Park

ABSTRAK

Kajian ini menilai kesanggupan membayar (WTP) untuk bayaran masuk di Taman Agro Teknologi MARDI. Objektif utama 1) untuk mengenalpasti ciri-ciri demografi respondent di Taman Agro Teknologi MARDI, 2) menilai WTP untuk penambahan kemudahan yang dinamakan Pusat Kesihatan dan Spa melalui bayaran masuk, 3) menilai perbezaan WTP antara pelancong tempatan dan asing dan menilai tingkat kepuasan pelancong yang datang ke Taman Agro Teknologi MARDI. Data dikumpul dengan kaji selidik antara pengunjung tempatan dan asing ($n = 100$) secara berasingan. Teknik Kaedah Penilaian Kontingen (CVM) telah digunakan untuk menentukan kesanggupan membayar di mana Kaedah Pilihan Dikotoni Tunggal (*Single Bounded Dichotomous Choice Model*) digunakan untuk menganalisis data. Hasil pendekatan CVM mendedahkan bahawa 59% daripada responden asing dan 56% daripada responden tempatan bersedia membayar untuk pembinaan Pusat Kesihatan dan Spa. Jumlah tawaran dan pendapatan merupakan faktor utama yang mempengaruhi Kesanggupan Membayar (WTP) untuk responden tempatan dan asing. Penyelidik menganggarkan min WTP bagi pelancong tempatan dan asing untuk penambahan bayaran masuk-masuk kira-kira RM6.35 dan RM7.20. Akhir sekali, kajian ini menghasilkan beberapa cadangan untuk pembangunan dan penambahbaikan kemudahan dan perkhidmatan yang sedia ada di Taman Teknologi Agro MARDI. Kajian ini juga membuktikan bahawa peningkatan perbelanjaan bajet untuk pembinaan Pusat Kesihatan dan Spa boleh dilaksanakan sambil menyediakan forum untuk berkomunikasi dengan badan-badan peraturan untuk memaksimumkan hasil dan tarikan pengunjung pada generasi akan datang.

.KATA KUNCI: kaedah penilaian kontingen (CVM), Pusat Kesihatan dan Spa, Kesanggupan membayar (WTP), Taman Agro Teknologi MARDI.

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LIST OF ABBREVIATIONS

CVM: Contingent Valuation Method

WTP: Willingness to Pay

WTA: Willingness to Accept

LADA: Langkawi Development Authority

MARDI: Malaysian Agricultural Research and Development Institute

IAT: Institute of Animal Technology

GDP: Gross Domestic Product

EV: Equivalent Variation

ES: Equivalent Surplus

CV: Compensating Variation

CS: Compensating Surplus

USD / US\$: United State Dollar

OE: Open Ended

DCS: Discrete Choice Single

DCM: Discrete Choice Multiple

PC: Payment Card

TEV: Total Economic Value

RM: Ringgit Malaysia

MPA: Marine Protected Area

VND: Vietnamese Dong

RP: Rupiah

TNGP: Taman Negara Gunung Gede Panegrango, Indonesia

SPSS: Statistical Package for the Social Science

LBD: Log Bid Amount

CHAPTER 1

INTRODUCTION

1.1 Background of study

MARDI Agro Technology Park, Langkawi is the government agency which functions as a centre for technology transfer and information dissemination for the Malaysian agro-industry. Currently, it functions as an agro tourism place and is an example of one of the parks that is most often associated with open spaces. Open spaces, by definition are areas of land that are put aside for multiple reasons including for recreational purposes (Gibberd, 1982; Elliot, 1988)

In 1928, the United States of America defined a park as any area of land or water set aside for outdoor recreational purposes. These include both active and passive activities and at least part of this recreation is expected to come from the park's appearance. Gibberd (1982) defines a park as an enclosed piece of ground, within or near a city or town, ornamentally laid out and devoted to public recreation. Meanwhile, Elliot (1988) describes parks as lands intended and appropriated for people's recreation by means of their rural, sylvan, and natural scenery and character. In Malaysia, parks refer to areas of open space where recreational activities are held (Town and Country Planning Department Peninsular Malaysia, 2002)

According to the National Recreation and Park Association in the United States of America, parks may be classified into four types: mini parks, neighbourhood parks;

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APPENDIX 1: List of table**Table 1(a)****Country of Origin for foreign respondents**

Country	Frequency	Percent	Valid Percent
THAILAND	2	2.0	2.0
SINGAPORE	15	15.0	15.0
INDIA	9	9.0	9.0
OMAN	11	11.0	11.0
PAKISTAN	3	3.0	3.0
SUDAN	3	3.0	3.0
ENGLAND	6	6.0	6.0
JORDAN	3	3.0	3.0
UAE	4	4.0	4.0
BAHRAIN	5	5.0	5.0
AUSTRALIA	11	11.0	11.0
PALESTIN	2	2.0	2.0
SAUDI ARABIA	2	2.0	2.0
HONG KONG	2	2.0	2.0
CHINA	1	1.0	1.0
USA	6	6.0	6.0
BANGLADESH	5	5.0	5.0
KUWAIT	2	2.0	2.0
IRAN	2	2.0	2.0
KOREAN	1	1.0	1.0
RUSSIA	2	2.0	2.0
DENMARK	1	1.0	1.0
SRI LANKA	2	2.0	2.0
Total	100	100.0	100.0

Source: Field Survey

Table 1(b)

State of origin for local respondents

State	Frequency	Percent	Valid Percent
PERLIS	9	9.0	9.0
KEDAH	25	25.0	25.0
PENANG	6	6.0	6.0
PERAK	7	7.0	7.0
SELANGOR	16	16.0	16.0
KUALA LUMPUR	10	10.0	10.0
NEGERI SEMBILAN	2	2.0	2.0
MELAKA	8	8.0	8.0
JOHOR	4	4.0	4.0
PAHANG	5	5.0	5.0
TERENGGANU	2	2.0	2.0
KELANTAN	2	2.0	2.0
SARAWAK	3	3.0	3.0
SABAH	1	1.0	1.0
Total	100	100.0	100.0

Source: Field Study

Table 2(a): Card Value * Yes/No to Card Value* of Local visitors

	Cross tabulation	Yes / No to Card Value		Total
Card Value	Local Tourist	Yes	No	
RM5	Count	19	1	20
	% with Yes / No to card value	33.9%	2.3%	20%
	% of total	19%	1%	20%
RM10	Count	16	4	20
	% with Yes / No to card value	28.6%	9.1%	20%
	% of total	16%	4%	20%
RM15	Count	11	9	20
	% with Yes / No to card value	19.6%	20.5%	20%
	% of total	11%	9%	20%
RM20	Count	7	13	20
	% with Yes / No to card value	12.5%	29.5%	20%
	% of total	7%	13%	20%
RM25	Count	3	17	20
	% with Yes / No to card value	5.4%	38.6%	20%
	% of total	3%	17%	20%
Total	Count	56	44	100
	% with Yes / No to card value	100%	100%	100%
	% of total	56%	44%	100%
Chi Square Tests of Local Tourist				
	Value	Df	Asymp. Sig. (2 sides)	
Pearson Chi Square	34.253 ^a	4	.000	
Likelihood Ratio	38.897	4	.000	
Linear-by-Linear Association	33.770	1	.000	
N of Valid Cases	100			

Table 2(b): Card Value * Yes/No to Card Value* of Foreign visitors

	Crosstabulation	Yes / No to Card Value		Total
Card Value	Foreign Tourist	Yes	No	
RM5	Count	18	2	20
	% with Yes / No to Card Value	30.5%	4.9%	20%
	% of Total	18%	2%	20%
RM10	Count	15	5	20
	% with Yes / No to Card Value	25.4%	12.2%	20%
	% of Total	15%	5%	20%
RM15	Count	13	7	20
	% with Yes / No to Card Value	22.0%	17.1%	20%
	% of Total	13%	7%	20%
RM20	Count	8	12	20
	% with Yes / No to Card Value	13.6%	29.3%	20%
	% of Total	8%	12%	20%
RM25	Count	5	15	20
	% with Yes / No to Card Value	8.5%	36.6%	20%
	% of Total	5%	15%	20%
Total	Count	59	41	100
	% with Yes / No to Card Value	100%	100%	100%
	% of Total	59%	41%	100%
Chi Square Tests of Foreign Tourists				
	Value	Df	Asymp. Sig. (2 sides)	
Pearson Chi Square	22.902 ^a	4	.000	
Likelihood Ratio	24.563	4	.000	
Linear – by - Linear Association	22.284	1	.000	
N of Valid Cases	100			

a.0 cell (0.0%) have expected amount less than 5. The minimum expected count is 8.60

APPENDIX 2

COMMENT AND SUGESTION TO IMPROVEMENT

Local respondents

- 1) Kekalkan persekitaran yang menarik dan kemudahan yang lengkap
- 2) Info centre untuk pelancong
- 3) Pelbagaikan tanaman sayur dan herba untuk pengetahuan pelancong
- 4) Membuat penambakan lagi terhadap kawasan
- 5) Perlahankan tram di jalan berbahaya untuk keselamatan pelancong
- 6) Perbaiki jalan ladang yang berlubang dan bahaya
- 7) Turunkan harga makanan di cafeteria. Terlalu mahal
- 8) Pelbagaikan makanan yang dijual di cafeteria
- 9) Menyedia dan menambahkan lagi bilangan buah – buahan untuk pelancong
- 10) Banyakkan tanaman pelbagai jenis sayur dan jual dipusat jualan
- 11) Menambahkan lagi information untuk pengetahuan pelancong
- 12) Jalan ataupun laluan harus diperbaiki untuk keselamatan pelancong
- 13) Tambah buah - buahan lagi
- 14) Tambahkan petugas supaya dapat beri penerangan kepada pelancong semasa dalam lawatan
- 15) Cadangan saya supaya menambahbaikan kawasan di kiosks supaya lebih selesa
- 16) Tambahkan kemudahan dan maklumat
- 17) Meningkatkan kualiti kebersihan taman
- 18) Patut ada pemberi penerangan ketika lawatan ladang
- 19) Keselamatan penumpang perlu diutamakan
- 20) Pelbagaikan tanaman buah dan sayur di kawasan taman
- 21) Banyakkan promosi dan aktiviti
- 22) Agak memuaskan
- 23) Tambah bilangan pekerja dan petugas
- 24) No comment, everything OK
- 25) Mewujudkan lebih banyak aktiviti yang boleh menarik perhatian pelancong

- 26) Menambahkan lagi pilihan buah – buahan dan memperbanyak lagi aktiviti tentang penanaman
- 27) Tambah kemudahan maklumat kepada pelancong
- 28) Banyakkan aktiviti di kawasan taman
- 29) Tambah kemudahan awam
- 30) Banyakkan aktiviti rekreasi
- 31) Banyakkan kenderaan ladang untuk mengelakkan kesesakan di kawasan menunggu
- 32) Bagi minuman percuma / water cooler kepada pelancong selepas makan buah
- 33) Banyakkan “signboard” jalan. Susah nak jumpa
- 34) Bersihkan signboard yang kotor dan gantikannya yang kurang jelas
- 35) Agar MARDI dapat lebih banyak lagi buah – buahan tempatan yang terdapat di Malaysia
- 36) Perbaiki semua kekurangan ladang terutama ladang herba
- 37) Adakan aktiviti mengutip dan makan buah kepada pelancong yang hadir bagi menambah minat pengetahuan pelancong terutama pelancong dari luar
- 38) Menambah pokok buah – buahan tempatan
- 39) Kekalkan persekitaran taman yang menarik
- 40) Sangat bagus, pusat ilmu pelancongan terbaik
- 41) Menambahkan petting zoo / taman haiwan peliharaan di kawasan taman untuk tarikan pelawat
- 42) Aktiviti semuanya puas hati
- 43) Pastikan buah – buahan yang diberi kepada pelancong adalah buah hasil ladang MARDI sendiri
- 44) Banyakkan jualan buah – buahan segar di pusat jualan MARDI
- 45) Menambah ruang dan keselesaan kepada pelancong
- 46) Banyakkan promosi
- 47) Pelbagaikan tanaman hiasan dan landskap di kawasan taman agro pelancongan
- 48) Banyak buah yang masak tapi tidak dipetik dan gugur
- 49) Banyakkan bunga – bukaan, wangi – wangian, dan landskap yang lebih menarik
- 50) Wujudkan aktiviti memancing di kawasan taman agro

- 51) Kebersihan taman dan kemudahan awam perlu dikekalkan untuk generasi masa hadapan
- 52) Banyakkan buah yang ada di kawasan kiosk
- 53) Baik dan memuaskan
- 54) Langkawi adalah tarikan pelancong untuk berehat dan beriadah. Pihak MARDI perlu mengutamakan tarikan tersebut dalam memajukan taman ini supaya menepati citarasa pelawat sasaran
- 55) Lebihkan tempat riadah untuk keluarga dan anak dan kenalkan kepada anak jenis buah yang anak tak kenal
- 56) Perlu di war- warkan dalam media massa
- 57) Tambahkan kemudahan dan maklumat
- 58) Penambahbaikan kafeteria supaya selesa terutama kedatangan pelancong pada cuti sekolah dan waktu kemuncak
- 59) Banyakkan aktiviti pendidikan kepada pelancong
- 60) Pelbagaikan jenis buah di kawasan kiosk
- 61) Bagus
- 62) Bina kemudahan homestay kepada pelancong untuk merasa suasana persekitaran taman agro pada waktu malam
- 63) Perbanyakkan buah – buahan tempatan yang dapat dirasai oleh pelancong
- 64) Kemudahan mencukupi
- 65) Promosi perlu diperhebat
- 66) Sesuai untuk program lawatan
- 67) Kawasan yang sesuai untuk program pendidikan
- 68) Pastikan harga tiket yang dijual setaraf dengan perkhidmatan yang disediakan
- 69) Perlu banyak perhentian semasa lawatan untuk memastikan pelancong dapat melihat pokok buah – buahan tropika dengan lebih dekat
- 70) Semasa lawatan ada petugas memberi penerangan
- 71) Amat memuaskan
- 72) Persekitaran yang menarik. Harap dapat dikekalkan
- 73) Banyakkan aktiviti yang lebih menarik
- 74) Perlu ada promosi pada rakyat tempatan

- 75) Harga tiket tidak terlalu tinggi dan berpatutan
- 76) Pastikan berhenti di banyak tempat perhentian ladang untuk tujuan penyampaian maklumat oleh petugas
- 77) Perbesarkan dan penambahbaikan kawasan parking
- 78) Café di pelbagaikan jenis makanan
- 79) Kebersihan harus diutamakan
- 80) Perlu maklumat penanaman yang lebih terperinci
- 81) Jalan ladang tak sesuai (tak selamat)
- 82) Membina taman permainan untuk keseronokan anak-anak pelancong yang datang.

Foreign respondents

- 1) Quality of herbs species to be planted
- 2) Add more gift for visitor as souvenir
- 3) This park is suitable for research programme
- 4) Add more activity in this park
- 5) Fruit are fresh and delicious. I like it
- 6) More fresh fruit
- 7) Nice place to visit
- 8) Retrieve more information to visitor
- 9) Provide more activity here
- 10) Everything is OK. Good enjoy for it.
- 11) The service is good and we need to stop with every plant and tested fruit
- 12) Build chalet for visitor to stay
- 13) More information
- 14) Get down the ticket for visitor
- 15) Very good. Better with Health Center
- 16) This place is so cool and nice. Very happy with family
- 17) More education program
- 18) The management have done their very best already
- 19) More information especially the planting for knowledge of visitor

- 20) More activity in MARDI Agro Technology Park
- 21) I happy so much. Nice place
- 22) Build bigger cafeteria
- 23) I would really appreciate it if there is a supermarket up there and also restaurant
- 24) Arabic translation information
- 25) Standardize the fee for visitor
- 26) Enough facilities available. Thank you
- 27) Well set out
- 28) Develop the park without damages the natural resources
- 29) More advertisement TV on planting
- 30) I hope this park will add more flowers as a new attraction.
- 31) Thank. I love Langkawi agro park
- 32) Everything was OK. The staff of the agropark very nice. Thank you very much.
- 33) No need to take ticket for the child
- 34) Their management can promote the education program to agencies / visitor to get more knowledge
- 35) Very good
- 36) Education program for visitor that come
- 37) Wish we can go and walk around the farm and touch or get close to the fruit tree and we can take photos
- 38) More information for visitor is good
- 39) Should provide better resting area for visitor
- 40) Upgrade the toilet and kiosks at the testing fruit corner
- 41) Close sign forbidding
- 42) It was nice but if these add juice it will be good.
- 43) Advertisement on TV of planting
- 44) Take care the safety in the farm road
- 45) Showering facilities
- 46) More fantastic and good nature
- 47) Planting more fruit, vegetable, herb and flower to get more knowledge to visitor
- 48) Build chalets for visitor to enjoy the environment especially at night

- 49) Maybe offer fruit drink from fruit grown at park
- 50) Should provide and plant more fruit and vegetables.
- 51) Abdul Kadir is good guide. Hope can come again in future
- 52) Good place for interest. Hope can come again later.
- 53) Advertisement on TV of planting the fresh fruit tropical
- 54) The park is very beautiful
- 55) Take care the service s and environment to attract visitor especially the tram
- 56) The landscape is interesting and many of planting to attract visitor.
- 57) I enjoy visit this park. Hope can maintain this agro park with the fresh fruit
- 58) Enjoying visit
- 59) More activities in here
- 60) The research program should be continues to get a better attraction of the visitor
In the future
- 61) Improve the available information such as planting
- 62) Safety first
- 63) More fruit and activity here
- 64) Provide the comfortable and good safety for watch tower
- 65) Information technology center must be open for visitor to get knowledge of
tropical fruit farm in agro tourism park
- 66) Farm visit should be make a long time to ensure the visitor can enjoy the natural
environment in agro technology park.
- 67) More Arabic signboard to read
- 68) Facilities that have is perfect and comfortable
- 69) Education and video for planting
- 70) You guy were amazing, this was the best experience of my life.
- 71) You should keep the seeds for your promotions
- 72) Thank you for being so nice for tourist and the garden very nice
- 73) More study / research here
- 74) Safety first especially park vehicle / tram
- 75) Concern about cleanliness
- 76) Standardize the fee for many recreational activities

Appendix 3a: STATA Program for logit and probit estimation (Foreign Respondents)

```
. logit D_WTP INCOME DUMOCC DUMDEU WTIME TRAMCON CLNTOILET CLNPARK FRUITTEST LB
> D
```

```
Iteration 0: log likelihood = -67.685855
Iteration 1: log likelihood = -37.870894
Iteration 2: log likelihood = -35.905544
Iteration 3: log likelihood = -35.83155
Iteration 4: log likelihood = -35.831314
Iteration 5: log likelihood = -35.831314
```

```
Logistic regression                                Number of obs   =          100
                                                    LR chi2(9)      =           63.71
                                                    Prob > chi2     =           0.0000
Log likelihood = -35.831314                      Pseudo R2      =           0.4706
```

D_WTP	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
INCOME	1.499733	.3653906	4.10	0.000	.7835808	2.215886
DUMOCC	.5670748	.2340927	2.42	0.015	.1082615	1.025888
DUMDEU	-2.388944	1.21699	-1.96	0.050	-4.774201	-.0036885
WTIME	-1.080698	.552574	-1.96	0.050	-2.163723	.0023272
TRAMCON	.7048951	.4187244	1.68	0.092	-.1157896	1.52558
CLNTOILET	1.155462	.6597406	1.75	0.080	-.1376055	2.44853
CLNPARK	-2.087312	.8301312	-2.51	0.012	-3.714339	-.460285
FRUITTEST	1.553101	.6689184	2.32	0.020	.2420454	2.864157
LBD	-.2720953	.0653212	-4.17	0.000	-.4001224	-.1440681
_cons	7.570823	5.289233	1.43	0.152	-2.795883	17.93753

```
. probit D_WTP INCOME DUMOCC DUMDEU WTIME TRAMCON CLNTOILET CLNPARK FRUITTEST L
> BD
```

```
Iteration 0: log likelihood = -67.685855
Iteration 1: log likelihood = -36.785115
Iteration 2: log likelihood = -35.512936
Iteration 3: log likelihood = -35.491797
Iteration 4: log likelihood = -35.491783
Iteration 5: log likelihood = -35.491783
```

```
Probit regression                                Number of obs   =          100
                                                    LR chi2(9)      =           64.39
                                                    Prob > chi2     =           0.0000
Log likelihood = -35.491783                      Pseudo R2      =           0.4756
```

D_WTP	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
INCOME	.8794337	.2006921	4.38	0.000	.4860844	1.272783
DUMOCC	.3334344	.1351779	2.47	0.014	.0684906	.5983782
DUMDEU	-1.401455	.7117438	-1.97	0.049	-2.796447	-.0064623
WTIME	-.6164216	.3294196	-1.87	0.061	-1.262072	.029229
TRAMCON	.4143218	.2509306	1.65	0.099	-.0774932	.9061368
CLNTOILET	.6503608	.3854759	1.69	0.092	-.1051581	1.40588
CLNPARK	-1.229276	.4815114	-2.55	0.011	-2.173021	-.2855308
FRUITTEST	.9311935	.3900453	2.39	0.017	.1667187	1.695668
LBD	-.1616569	.0369803	-4.37	0.000	-.234137	-.0891769
_cons	4.446701	3.075634	1.45	0.148	-1.581431	10.47483

.

Appendix 3b: STATA Program for logit and probit estimation (Local Respondents)

```
. logit D_WTP LBD INCOME TIMEVISIT PARKING TICKET SALE NTOILET
```

```
Iteration 0:   log likelihood =  -68.59298
Iteration 1:   log likelihood = -23.289569
Iteration 2:   log likelihood = -21.812564
Iteration 3:   log likelihood = -21.608941
Iteration 4:   log likelihood = -21.608732
Iteration 5:   log likelihood = -21.608732
```

```
Logistic regression                                Number of obs   =          100
                                                    LR chi2(7)      =          93.97
                                                    Prob > chi2     =          0.0000
Log likelihood = -21.608732                      Pseudo R2      =          0.6850
```

D_WTP	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
LBD	-.5116206	.1163173	-4.40	0.000	-.7395983	-.2836428
INCOME	1.826119	.5348412	3.41	0.001	.7778491	2.874388
TIMEVISIT	2.927836	.8127688	3.60	0.000	1.334838	4.520834
PARKING	-1.78496	.9032644	-1.98	0.048	-3.555325	-.0145939
TICKET	2.88734	1.071555	2.69	0.007	.7871305	4.98755
SALE	-2.48584	.8674782	-2.87	0.004	-4.186066	-.785614
NTOILET	2.054267	.7816747	2.63	0.009	.5222129	3.586321
_cons	-3.605441	3.638336	-0.99	0.322	-10.73645	3.525567

```
. probit D_WTP LBD INCOME TIMEVISIT PARKING TICKET SALE NTOILET
```

```
Iteration 0:   log likelihood =  -68.59298
Iteration 1:   log likelihood = -22.956658
Iteration 2:   log likelihood = -21.556831
Iteration 3:   log likelihood = -21.428328
Iteration 4:   log likelihood = -21.428148
Iteration 5:   log likelihood = -21.428148
```

```
Probit regression                                Number of obs   =          100
                                                    LR chi2(7)      =          94.33
                                                    Prob > chi2     =          0.0000
Log likelihood = -21.428148                      Pseudo R2      =          0.6876
```

D_WTP	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
LBD	-.2903113	.0606335	-4.79	0.000	-.4091508	-.1714717
INCOME	1.031206	.285895	3.61	0.000	.4708623	1.59155
TIMEVISIT	1.630207	.4191143	3.89	0.000	.8087585	2.451656
PARKING	-1.01911	.5140815	-1.98	0.047	-2.026691	-.0115285
TICKET	1.617117	.5944837	2.72	0.007	.4519503	2.782283
SALE	-1.400423	.4620655	-3.03	0.002	-2.306055	-.4947913
NTOILET	1.218837	.4386205	2.78	0.005	.3591565	2.078517
_cons	-2.101501	2.07645	-1.01	0.312	-6.171267	1.968265

Appendix 3c: STATA Program for logit and probit estimation (All Respondents)

```
. logit D_WTP LBD INCOME TIMEVISIT
```

```
Iteration 0:   log likelihood = -136.37092
Iteration 1:   log likelihood = -79.424784
Iteration 2:   log likelihood = -77.708713
Iteration 3:   log likelihood = -77.684863
Iteration 4:   log likelihood = -77.684846
Iteration 5:   log likelihood = -77.684846
```

```
Logistic regression                                Number of obs   =          200
                                                    LR chi2(3)      =        117.37
                                                    Prob > chi2     =         0.0000
Log likelihood = -77.684846                      Pseudo R2      =         0.4303
```

D_WTP	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
LBD	-.248094	.0375804	-6.60	0.000	-.3217503	-.1744377
INCOME	.9905167	.1873823	5.29	0.000	.6232541	1.357779
TIMEVISIT	1.494579	.3917946	3.81	0.000	.7266761	2.262483
_cons	-.582675	.7684608	-0.76	0.448	-2.088831	.9234806

```
. probit D_WTP LBD INCOME TIMEVISIT
```

```
Iteration 0:   log likelihood = -136.37092
Iteration 1:   log likelihood = -79.530384
Iteration 2:   log likelihood = -78.012326
Iteration 3:   log likelihood = -77.994765
Iteration 4:   log likelihood = -77.994761
```

```
Probit regression                                Number of obs   =          200
                                                    LR chi2(3)      =        116.75
                                                    Prob > chi2     =         0.0000
Log likelihood = -77.994761                      Pseudo R2      =         0.4281
```

D_WTP	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
LBD	-.1415721	.0194084	-7.29	0.000	-.179612	-.1035322
INCOME	.551306	.0975964	5.65	0.000	.3600206	.7425914
TIMEVISIT	.8401185	.2206419	3.81	0.000	.4076684	1.272569
_cons	-.2724431	.4335119	-0.63	0.530	-1.122111	.5772247

```
.
```

Appendix 4a: Sample of questionnaire (English)



Dear visitor

Welcome to MARDI Agrotechnology Park, Langkawi. I am a student master of Economics at Universiti Utara Malaysia (UUM), and I am conducting this field survey for academic research. The main objective is to evaluate the visitor willingness to pay for entrance fee toward construction and usage of Health and Spa Exhibition Center in MARDI Agrotechnology Park. I do appreciate if you only take 10 minute of your valuable time in completing this questionnaire. All information gathered is confidential and used only for academic purposes.

Researcher:

FAIRUZ BIN PUASA (814269)

UNIVERSITI UTARA MALAYSIA, SINTOK KEDAH

SECTION A: DEMOGRAPHY

Please tick (✓) only one answer to each question.

1. Gender:

- () Male
() Female

2. Age:

- () < 20
() 20 – 29
() 30 – 39
() 40 – 49
() 50 – 59
() ≥ 60

3. Marital status:

- () Single
() Married
() Others: (please specify) _____

4 Nationality

- () Malaysian (State your state) _____

() International (State your country) _____

5 Occupation:

- () Professional / Management
() Technical
() Clerical
() Self employed
() Student

- () Housewife / Unemployed
 () Others: (please specify) _____

6 Monthly household Income:

- () ≤ US\$1000
 () US\$1001 – US\$ 2000
 () US\$2001 – US\$ 3000
 () US\$3001 – US\$ 4000
 () US\$4001 – US\$ 5000
 () > US\$ 5000

7 Highest education attained :

- () No education
 () Primary school
 () Secondary school
 () Higher Institution
 () Others: (please specify) _____

SECTION B: THE VIEW ABOUT MARDI AGROTECHNOLOGY PARK?

8 Where did you get information about MARDI Agrotechnology Park? /

- () Newspaper
 () Internet
 () Magazine
 () Television / Radio
 () Friends / Family
 () Tourism agent
 () Others: (please specify) _____

9 How many times have you visited MARDI Agrotechnology Park? If more than one, give the reason to come again?

- () First time
 () 2 time _____
 () 3 time
 () More than three times _____

10 Transportation that you use to MARDI Agrotechnology Park?

- () Car
 () Motorcycle
 () Bus
 () Other (please specify) _____

11 With whom do you come to MARDI Agrotechnology Park?

- () In group
 () Partner / spouse
 () Alone
 () Family
 () Others: (please specify) _____

12 Purpose of visit to MARDI Agrotechnology Park? (Choose ONLY one)

- () Relaxing
 () Sightseeing
 () Enjoying the natural beauty
 () Farm visit
 () recreational activities
 () Study / Research
 () Others: (please specify) _____

13 What types of activity that you do at MARDI Agrotechnology Park? Please choose the main 5 activities that you do and arrange rank on the answer, 1 – the highest to 5 – the lower

- () Farm visit () Testing Fruit
 () Sightseeing () Camping
 () Shopping () Relaxing
 () Jungle Tracking () Photography
 () Others (Please specify) _____

14 Please tick (/) the answer whether you (1) extremely dissatisfied, (2) dissatisfied, (3) neutral, (4) satisfied, (5) extremely satisfied on the facilities/ service conditions that have been provided in MARDI Agrotechnology Park

Facilities Conditions	1	2	3	4	5
Number of parking space					
Short queue at the ticket counter					
Safety in - farm Road					
Number of tourist guide					
Position of resting area					
Number of resting area					

Comfortable information technology center					
Comfortable cafeteria					
Condition of sales center					
Number of public toilet					
Fruit variety					
Vegetable variety					
Flower and herb variety					
Number of park vehicle / tram					
Clear and readable signboard					
Safety of watch tower					
Camping site position					
Beautiful landscape					

Service Conditions	1	2	3	4	5
Waiting time for park vehicle / tram					
Park vehicle / tram condition					
Farm Visit period					
Cleanliness of toilet					
Cleanliness of park					
Creativity of tourist guide					
Information by tourist guide					
Friendliness and hospitality of tourist guide					
Variety of fruit testing					

SECTION C: WILLINGNESS TO PAY AMONG VISITOR

The below box explains the information about MARDI Agro Technology Park. It is important for you to read to answer the following questions.

MARDI Agro Technology Park functions as a center for technology transfer and information dissemination concerning agro-industry. After this park is being upgraded as agro-tourism attraction. It gaining the visitor attention with increment from 9206 in 2006 to 75,877 in 2013.

Currently, main attraction in the park is taking photograph with a variety of visitors who come can pose with a variety of tropical fruit trees, hi-tech vegetable farm, deer park, flower and herb garden. In addition, visitors have the opportunity to taste and buy fresh tropical fruits and the hi-tech vegetables at the sales center.

Assume that the agro technology park management intends to build Health and Spa Exhibition Center. The center will fully utilize the entire herb grown in MARDI Agro Technology Park. This will allow visitors to experience the advantages and benefits of herb grown in the park such as Tongkat Ali, Kacip Fatimah, Sireh, Kunyit, Serai Wangi, limau purut, Avokado and stevia. This center will also become a platform to popularize Malaysia herbs to the world.

Currently, an entrance fee is charged at RM 5 for local visitor and RM20 for foreign visitor. Park management plan to increase the entrance fee to accommodate of expenditure the Health and Spa Center that can be enjoyed by all visitors.

15 If the entrance fee is increased to RM_____, are you willing to pay for this amount?

- () Yes (Please answer no 16)
- () No (Please answer no 17)

16 If YES, please state your reason.

- () Agree with the plan to build the Health and Spa Center.
 - () Will increase knowledge about usage of herbs available in Malaysia
 - () It can help MARDI Agro Technology Park to expend its service
 - () I love health and spa service
 - () Others: (please specify)
-

17 If NOT, what is your main reason?

- () I don't like spa
 - () Current entrance fee is already sufficient
 - () The cost should be provided by Malaysian Government
 - () Health and Spa center is not suitable to be built in MARDI Agro Technology Park
 - () Others: (please specify)
-

18 Do you feel this questionnaire provided you with

- () Too much information
- () About the right amount of information
- () Not enough information

SECTION D: COMMENT/ RECOMMENDATION

19 Do you have any comment or suggestion on how to improve the facilities/ service in MARDI Agro Technology Park?

Thank you Very Much for Your Time. Your cooperation is greatly appreciated

Appendix 4b: Sample of questionnaire (Malay)



Pelawat yang dihormati,

Selamat datang ke Taman Agro teknologi MARDI, Langkawi. Saya adalah pelajar Ijazah Sarjana / Master Ekonomi di Universiti Utara Malaysia(UUM), Sintok, Kedah dan sedang menjalankan kajian akademik untuk menilai kesediaan pelancong untuk membayar untuk pembinaan dan penggunaan Pusat Pameran Kesihatan dan Spa di Taman Agro Teknologi MARDI. Saya sangat menghargai sekiranya anda dapat meluangkan sedikit masa sekurang-kurangnya 10 minit untuk mengisi borang selidik ini. Segala maklumat yang diberikan adalah sulit dan hanya digunakan untuk tujuan akademik sahaja.

Penyelidik:

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BAHAGIAN A: DEMOGRAFI

Sila tandakan (✓) hanya satu jawapan bagi setiap soalan

1. Jantina:

- () Lelaki
() Perempuan

2. Umur:

- () < 20
() 20 – 29
() 30 – 39
() 40 – 49
() 50 – 59
() ≥ 60

3. Status perkahwinan:

- () Bujang
() Berkahwin
() Lain-lain: (sila nyatakan) _____

4 Kewarganegaraan

- () Malaysia (Nyatakan negeri anda) _____

() Asing (Nyatakan Negara anda) _____

5 Pekerjaan:

- () Profesional / Pengurusan
() Teknikal
() Perkeranian
() Bekerja sendiri
() Pelajar

- () Suri rumah / Tidak bekerja
 () Lain-lain: sila nyatakan) _____

6 Pendapatan isi rumah sebulan (RM):

- () ≤ 3000
 () 3001 - 6000
 () 6001 - 9000
 () 9001 – 12000
 () 12001 – 15000
 () > 15000

7 Taraf pendidikan tertinggi :

- () Tiada Pendidikan
 () Sekolah Rendah
 () Sekolah Menengah
 () Institusi Pengajian Tinggi
 () Lain-lain: (sila nyatakan) _____

BAHAGIAN B: PANDANGAN MENGENAI TAMAN AGROTEKNOLOGI MARDI

8 Bagaimanakah anda mendapat maklumat mengenai Taman Agroteknologi MARDI?

- () Surat khabar
 () Internet
 () Majalah
 () Televisyen / Radio
 () Rakan / Keluarga
 () Agen pelancongan
 () Lain-lain: (sila nyatakan) _____

9 Kali keberapakah anda melawat Taman Agro Teknologi MARDI? Jika lebih sekali berikan sebab untuk datang semula?

- () Kali pertama
 () Kali ke 2 _____
 () Kali ke 3 _____
 () Lebih 3 kali _____

10 Pengangkutan yang digunakan untuk ke Taman Agro Teknologi MARDI?

- () Kereta
 () Motosikal
 () Bas
 () Lain-lain (sila nyatakan) _____

11 Bersama siapakah anda datang ke Taman Agro Teknologi MARDI?

- () Dalam kumpulan
 () Rakan / Pasangan
 () Seorang diri
 () Keluarga
 () Lain-lain: (sila nyatakan) _____

12 Tujuan berkunjung ke Taman Agro Teknologi MARDI? (Pilih HANYA SATU)

- () Berehat
 () Bersiar - siar
 () Menikmati keindahan semula jadi
 () Melawat ladang
 () Melakukan aktiviti rekreasi
 () Pembelajaran atau melakukan kajian

() Lain-lain: (sila nyatakan) _____

13 Apakah jenis aktiviti yang anda lakukan di Taman Agro Teknologi MARDI? Pilih 5 aktiviti utama yang dilakukan dan susun mengikut kedudukan, 1 – paling utama ke 5 – paling rendah

() Lawatan ladang () Merasa buah

() Bersiar – siar () Berkhemah

() Membeli belah () Berehat

() Merentas rimba / () Bergambar
(Jungle tracking)

() Lain – lain (sila nyatakan) _____

14 Sila tandakan (/) pada jawapan sama ada anda (1) sangat tidak berpuas hati, (2) tidak puas hati, (3) Tiada pandangan, (4) berpuas hati, (5) sangat berpuas hati dengan keadaan kemudahan awam / perkhidmatan yang disediakan di Taman Agro Teknologi MARDI.

Keadaan Fasiliti / kemudahan	1	2	3	4	5
Bilangan tempat letak kereta					
Giliran pendek di kaunter tiket					
jalan ladang yang selamat					
Bilangan pemandu pelancong					

Kedudukan Wakaf - wakaf rehat					
Tempat duduk / rehat yang cukup					
pusat teknologi maklumat yang selesa					
Cafeteria yang selesa					
Keadaan pusat jualan					
Bilangan tandas awam					
Kepelbagaian jenis buah					
Kepelbagaian jenis sayur					
Kepelbagaian jenis bunga / herba					
Bilangan kenderaan taman					
papan tanda yang jelas dibaca					
Keselamatan Menara tinjau					
Kedudukan Tapak perkhemahan					
Landskap yang indah					

Kedadaan perkhidmatan	1	2	3	4	5
Masa menunggu kenderaan ladang					
Kedadaan kenderaan ladang					
Tempoh lawatan ladang					
Kebersihan tandas					
Kebersihan taman					
Kreativiti petugas					
Penyampaian maklumat oleh petugas					
Keramahan dan kemesraan petugas					
Kepelbagaian buah yang dirasa					

BAHAGIAN C: KESEDIAAN UNTUK MEMBAYAR ANTARA PELANCONG

Kotak di bawah menerangkan maklumat tentang Taman Agro Teknologi MARDI. Adalah penting bagi anda untuk membaca untuk menjawab soalan-soalan berikut.

Taman Agro Teknologi MARDI Langkawi berfungsi sebagai pusat pemindahan teknologi dan penyebaran maklumat mengenai industri pertanian. Setelah taman ini dinaiktaraf sebagai tarikan agro-pelancongan. Ia semakin mendapat perhatian orang ramai dengan **peningkatan pelawat** yang datang dari 9206 pada tahun 2006 kepada 75877 pada tahun 2013

Pada masa kini, tarikan utama di taman ini termasuklah bergambar dengan pelbagai tarikan utama termasuk ladang buah-buahan tropika, kebun sayur hi tech, taman rusa, kebun bunga dan taman herba. Di samping itu, pelawat berpeluang merasa dan membeli buah –buahan tropika dan sayur hi tech segar yang dijual di pusat jualan.

Andaikan pihak pengurusan taman agro teknologi bercadang untuk membina **Pusat Pameran Kesihatan dan Spa**. Pusat ini akan menggunakan keseluruhan herba yang di tanam di Taman Agro Teknologi MARDI. Ini membolehkan pelawat mengetahui mengenai kelebihan dan khasiat herba yang ada. Pusat ini juga akan menjadi platform untuk mempopularkan herba Malaysia di mata / seluruh dunia

Pada masa ini, bayaran masuk yang dikenakan adalah RM6 dan RM 20 untuk pelancong tempatan dan asing. Pengurusan taman bercadang untuk meningkatkan bayaran masuk untuk menampung perbelanjaan Pusat Kesihatan dan Spa yang boleh dinikmati oleh semua pelawat.

**15 Sekiranya bayaran masuk ditingkatkan sebanyak RM_____ ,
adakah anda sedia untuk membayar dengan jumlah tersebut.**

- () Ya (sila jawab soalan no16)
- () Tidak (sila jawab soalan no 17)

16 Sekiranya YA, sila nyatakan alasan anda.

- () Bersetuju dengan rancangan pembinaan Pusat Kesihatan dan Spa
- () Akan meningkatkan pengetahuan mengenai penggunaan herba yang terdapat di Malaysia
- () Boleh membantu Taman Agro Teknologi MARDI dalam perbelanjaan pusat dan perkhidmatan tersebut
- () Saya suka kepada perkhidmatan kesihatan dan spa .
- () Lain-lain: (sila nyatakan)

17 Sekiranya TIDAK, sila nyatakan alasan anda.

- () Saya tidak suka perkhidmatan spa
- () Harga tiket kini sudah memadai
- () Kos seharusnya ditanggung oleh kerajaan Malaysia
- () Pusat Kesihatan dan Spa tidak sesuai dibina di Taman Agro Teknologi MARDI
- () Lain-lain : (sila nyatakan)

18 Adakah anda rasa kaji selidik ini menyediakan anda dengan

- () Terlalu banyak maklumat
- () Maklumat yang tepat dan mencukupi
- () Tidak cukup maklumat

BAHAGIAN D: CADANGAN

19 Komen atau cadangan anda untuk menambahbaik kemudahan/ perkhidmatan yang ada di Taman Agro Teknologi MARDI?

**TERIMA KASIH ATAS KERJASAMA ANDA. KERJASAMA ANDA AMAT
DIHARGAI**

RM5	RM5
RM10	RM10
RM15	RM15
RM20	RM20
RM25	RM25

**Appendix 5: Photographs of available facilities and service in MARDI Agro
Technology Park**



Farm tour shuttle



Jungle tracking



Sales centre



Counter ticket



Public toilet



Cafeteria



Test fruit corner



Parking car



Waiting Area



Watch tower



Farm visit





Creativity of tourist guide



Variety of fruit



Variety of hi tech vegetables



Photograph Activity



Beautiful Landscape



Information technology centre



Petting zoo